BSWG: Whychus Subgroup
December 9, 2014, 1:00- 3:00 PM, Three Sisters Irrigation District
Final Meeting Notes

ATTENDING

Paul Bertagna, City of Sisters
Tom Davis, Native Reintroduction Network
Kate Fitzpatrick, Deschutes River Conservancy/BSWG process co-coordinator
Jeremy Giffin, Oregon Water Resources Department
Ryan Houston, Upper Deschutes Watershed Council
Peter Lickwar, US Fish and Wildlife Service
Paul Lipscomb, Sisters citizen and member of Oregon Land and Water Alliance
Bill Merrill, Native Reintroduction Network
Jeff Perreault
Mike Riehle, Sisters Ranger District, USDA Forest Service
Bob Spateholts, Portland General Electric
Marc Thalacker, Three Sisters Irrigation District (Chair)
Pamela Thalacker, Three Sisters Irrigation District
Zach Tillman, Deschutes River Conservancy

Anne George, The Mary Orton Company, LLC, attended as the facilitator.

AGENDA

The group used the following agenda as a guide during their meeting:

1. Welcome
2. Introductions
3. Overview and approval of agenda
4. Basin Study Overview (Attachment 1) &Subgroup Purpose
5. Review proposed approach to refine water demands (Attachment 2)
6. Review proposed approach related to strategies (Attachment 3)
7. Meeting Evaluation
8. Adjourn

WELCOME, INTRODUCTIONS, AND AGENDA

Marc convened the meeting and welcomed everyone.

BASIN STUDY OVERVIEW AND SUBGROUP PURPOSE

Kate reviewed the four elements of a Bureau of Reclamation Basin Study:

1. Where is the gap in supply and demand? How does that change with climate change?
2. How do existing water and power perform with changing realities?
3. Development of adaptation and mitigation strategies; i.e., what are the solutions?
4. Tradeoff analysis for feasibility: cost benefit, stakeholder response, etc.

Kate told the group that Basin Study Plans and their development are done by consensus and that BSWG is developing its Plan of Study at this time. She said that Basin Studies provide a lot of information, but do not provide instruction on how to proceed.

Agreement: The Subgroup agreed their input would be most useful in refining instream demands and recommending adaptation and mitigation strategies for analysis.

It was noted that groundwater needs should be added as an area of concern for the Subgroup as they discuss recommendations for the Plan of Study. Existing information on groundwater resources in the basin have not been updated to reflect the conservation work (i.e. canal piping) that has been done. The group agreed that it would be useful to ask Ken Lite with Oregon Water Resources Department to talk with the group about the groundwater information that exists in Whychus Creek to answer the following questions:

- What do we know about it,
- How has it changed, and
- How will it change under potential water management scenarios and climate change?

It was felt the above questions would help the group identify data gaps to be filled in the Basin Study.

REVIEW PROPOSED APPROACH TO REFINE WATER DEMANDS (ATTACHMENT 2)

Ryan described the proposed approach ("strawman") to refine water demands> He acknowledged that the approach was developed with an eye toward balancing time and cost as the Subgroup considers what the instream needs are in Whychus Creek and the strategies to supply those needs.

The proposed approach identifies demand in two ways: baseline targets and optimal flows.

The proposed baseline target is the instream water rights, or 33 cfs of wet water at the gage at Sisters. The proposed Plan of Study element is an analysis of how many "paper" water rights are necessary to protect instream to achieve 33 cfs of "wet" water in all water years. This analysis is important because the reliability of water rights in Whychus Creek, particularly the 1895 rights, varies by water year.

Agreement: The group agreed with the baseline targets and analysis in the proposed approach and recommended ensuring that the anticipated impacts of climate change were included in this analysis.

Optimal flows would be considered over a longer-term planning horizon. Ryan proposed using temperature as a proxy to understand optimal flows, specifically how much water is needed to maintain a water temperature that meets existing state standards of 18 degrees Celsius. He proposed using streamflow-temperature relationships that have already been developed and he recommended peer review of these as part of the Plan of Study. This would be a cost-effective way to deepen our understanding of optimal flows. Ryan described the following two analyses options:

- The Department of Environmental Quality developed a HeatSource model that is predictive and allows you to "toggle" variables. The downside is that it is based on data collected on one day, July 21, 2001.
- The Upper Deschutes Watershed Council has an analysis that uses empirical data from 1999 to present and pairs flows and water temperature. It captures the reality of what was happening with flows and temperatures, but has limited predictive ability.

Comments on using these analyses of optimal flows included:

- The assumptions that go into the analyses are important and could be part of a peer review (ex. What statistics do you use, 24-hour average flows versus instantaneous flows?)
- Some of these statistical details may not be that important in the relative scale because the analyses show that 60-67 cfs is necessary to meet temperature standards in the hottest part of the summer, which is well in excess of current instream water rights.
- The HeatSource model has a shade variable, although USFS has found that flow accounts for 90-95% of temperature in Whychus, so shade is less of a driver.
- Potential effects of Pole Creek fire on peak flows and sediment, and observations that it is flashier now and landowners have noticed increased sediment.
- 13 degrees Celsius for spawning has been talked about, although DEQ has not adopted it.
- Are DEQ standards the right goals?
- The local fish experts could recommend targets based on a literature review.

- The Hood River Basin Study used base and climate change scenarios and applied flow-temperature models, including under scenarios that included conservation and storage. This might be useful here.
- If we use temperature as a surrogate of ecological benefit, we need to be clear about what it means and doesn't mean as temperature is only a piece of the puzzle.
- Include spawning criteria, and include an analysis of the spawning time period (January through May 31 as identified in the Habitat Conservation Plan).
- Spawning for Chinook has not yet been identified.
- The discovery of smaller bull trout near Rimrock Ranch was noted
- It was noted that there hasn't been serious discussion of further physical fish habitat modeling in Whychus, and the group was comfortable with that.

Agreement: The group agreed to the proposed approach with the addition of an analysis of spring months for spawning.
Action Item: Bob Spateholts agreed to create a life cycle chart for Whychus Creek for the target species.
Action Item: Ryan will work with the fish experts on considering alternative targets based on local expertise and a literature review.

REVIEW PROPOSED APPROACH RELATED TO STRATEGIES (ATTACHMENT 3)

Kate walked the group through the table of potential strategies and asked for additions, deletions, edits and discussion. She explained that the approach BSWG has adopted is to focus on less expensive strategies before more financially costly options would be employed.
The following points were made:

- Add a habitat component as a strategy. The ecological benefit of associated habitat work could be described and/or habitat could be assessed as a water supply tool (more detail needed here).
- Additional data is not needed to evaluate piping for TSID.
- Add Aquifer Storage and Recovery as a strategy (more detail needed here).
- Break Conservation out into three strategies:
    - Canal piping.
    - On-farm efficiencies.
    - Municipal conservation.

      *There was discussion of the interconnection of piping laterals and on-farm efficiencies and how to break them out separately or not.
- Piping in Three Sisters Irrigation District (TSID)
    - There are no further data gaps.
- Groundwater-Surface Water Switches
    - The infrastructure exists at the TSID deep well (at Watson Reservoir) and also as installed GW capacity throughout TSID (on-farm wells), and this has been piloted, but there are administrative barriers to protecting the water instream, which may be less of a concern as there are no downstream diverters.
    - Supplemental groundwater rights and the infrastructure to pump exist on much of the acreage in TSID. The legal framework does not currently exist for this option, but could be investigated as a potential drought management tool, acknowledging policy changes would be necessary.
    - Both qualitative (temperature) and quantitative impacts would need to be assessed.
    - It would be good to quantify groundwater usage by exempt wells -an updated USGS report made some assumptions and could be referenced.
- Leasing
    - TSID's goal is a district-wide long-term lease that is not specific to acreage.
        - SB 664 may be a useful tool here.
- Off-Channel Storage
    - Benefit-cost ratio should be assessed.

    - TSID described the concept of reducing peak flows (ex. from 2000 cfs to 1000 cfs) would reduce flood risk for the City of Sisters.
    - Major barriers exist because Whychus is a federally-designated Wild and Scenic River.
        - The analysis of the barriers could be included in Plan of Study- Mike Riehle offered to help with this.
    - The City is not currently focused on this strategy for risk management.
    - Does ODFW peak flow guidance exist? This analysis could also be included in the Plan of Study.
    - Siting an off-channel reservoir with infrastructure sufficient for diverting up to 1000 cfs may be challenging.
- Drought Management Plans
    - This is largely an optimization of identified tools on a temporary basis.
    - Examples of drought-specific strategies might be groundwater-surface water switches, increased compensation for leases in dry years, working with TSID in other creative ways.

Agreement: The group agreed that Ryan and Kate should take the feedback they received from members and refine Table 2 and Table 3 for discussion at an upcoming meeting. The Subgroup will seek consensus on recommendations to the Steering Committee on Plan of Study needs to define instream demands and strategies to address demands for water.

Next Meeting and Next Steps

- Kate to invite Ken Lite from OWRD to talk with the group about existing groundwater information
- Ryan and Kate to refine Table 2 and Table 3 based on feedback
- Further discussion and refinement of table components where needed

Meeting Evaluation

Anne George reminded the group to fill out their meeting evaluation sheets, which invite one piece of feedback about what they liked about the meeting, indicated below with a plus symbol (+), and one piece of feedback about what they would like to change for the next meeting, indicated with a delta symbol (Δ). Below are the results of this exercise. Each check mark (✓) indicates that someone endorsed a previously mentioned item.

+		Δ	
+	Stayed on agenda (mostly- diversions were minor)	Δ	Coffee
+	Everyone was good about speaking up about concerns	Δ	A list of who's who (agency, telephone, email)
+	Comprehensive and positive on flow	Δ	None noted
+	Discussion on strategies	Δ	More on-task check-in
+	Good discussion of science-based issues	Δ	Reconfigure formal groundwater group
+	Opportunity to meet Whychus stakeholders	Δ	Larger meeting room
+	Open forum. Lots of discussion.	Δ	Food
+	Open space for people to chime in.	Δ	Could have solicited opinions from those who didn't talk as much

The meeting was adjourned.

Attachment 1: Basin Study Requirements

Basin Studies address basin-wide efforts to evaluate and address the impacts of climate change. Funding is available for comprehensive water studies that define options for meeting future water demands in river basins in the western United States where imbalances in water supply and demand exist or are projected.

Each Basin Study will include four basic components:

1. Projections of water supply and demand within the basin, or improvements on existing projections, taking into consideration the impacts of climate change.

2. Analysis of how existing water and power infrastructure and operations will perform in the face of changing water realities such as population increases and climate change.

3. Development of structural and nonstructural options to improve operations and infrastructure to supply adequate water in the future.

4. A trade-off analysis of the options identified and findings and recommendations as appropriate. Such analysis simply examines all proposed alternatives in terms of their relative cost, environmental impact, risk, stakeholder response, or other attributes common to the alternatives. The analysis can be either quantitative or qualitative in measurement.

(Sources: http://www.usbr.gov/WaterSMART/bsp and http://www.usbr.gov/WaterSMART/bsp/require.html, accessed September 10, 2014)

Attachment 2: Strawman Approach to Refine Instream Demands

APPROACH STATEMENT

Significant information on instream flow needs exists in Whychus Creek. We propose two pieces of analysis to refine this information, but propose that the majority of resources are directed to assessing strategies to meet demands.

1. Analysis of water availability to identify how many paper water rights are necessary to ensure meeting baseline goals (instream water rights) with wet water.

2. Peer review to assess existing flow-temperature information related to optimal flow goals.

The following table can be used as a tool to review this approach and refine/add to as necessary.

Comments made at the December 9th meeting are added in blue text.

Instream Goals	**Existing Data**	**Data Gap**	**Proposed POS Task**	**Cost**	**Dec 9 Comments**
Baseline Targets	Instream water rights: 33 cfs at TSID diversion	Paper water rights necessary to have 33 cfs of wet water instream in wet, average and dry years	Analysis of water rights availability based on 70 years of gage data	low	Agreement.
Optimal Flows	DEQ HeatSource and UDWC analyses suggest that 60-67 cfs instream is necessary to meet state temperature criteria of 18°C through the warmest part of the summer	Peer review of UDWC analysis	Peer review of UDWC analysis	low	Agreement. Include analysis for spawning periods. Team members to produce life cycle chart and recommend alt temperature targets based on expertise and lit review

Attachment 3: Strawman Proposed Strategies to Mitigate Supply and Demand Imbalances in Whychus Creek

APPROACH STATEMENT

There has been significant progress reducing the gap in supply and demand in Whychus Creek to-date, and many strategies are in-process already. Consistent with the broader Basin Study approach, we propose implementing the most cost-effective and well-tested strategies first (i.e. piping, leasing), while analyzing more expensive solutions to meet optimal goals in the longer-term (i.e. new storage).
The following table can be used as a tool to review this approach and refine/add to as necessary.

The column added at the right includes comments made at the December 9th meeting. New strategies added are in rows below in blue.

Strategy	Existing Data	Data Gap	Proposed POS Task	Cost	Dec 9 Comments
Piping in TSID	Plans to McKenzie Reservoir	Remaining conserved water potential	Assess remaining opportunities		No additional data needed. Include under broader conservation category (see below).
Groundwater-surface water switches	USGS Reports	Analysis of opportunities Assessment of impacts on springs and, therefore, temperatures in Whychus	Analysis of opportunities Assessment of groundwater impacts		Effect on springs that bring cold water to Whychus Creek should be analyzed to assess trade off values Legal constraints should be documented. Can be framed as a drought management tool.
Optimize leasing program	Ten years of leasing experience	Analysis of policies/pricing to optimize	Analysis of policies/pricing to optimize		Agreement Goal is to move towards district-side long-term lease.
Instream transfers for restoration and/or mitigation	Good documentation of water rights.	None	Summarize existing information.		Agreement, not much time for discussion.
Off-channel storage	None known?	Analysis of new storage opportunities	Recon-level analysis of new storage		Concept described as reducing peak flows (2,000 to 1,000 cfs) to reduce flood risk and to increase summer flows instream. Careful about characterizing as a benefit for the environment; there are also environmental impacts. Is there ODFW peak flow guidance? Benefit-cost ratio should be identified. Legal barriers are high because it is a Wild and Scenic River. City not currently focused on this as a flood management tool. Siting an off-channel reservoir with infrastructure sufficient for diverting up to 1,000 cfs would be challenging.
Drought Mgt Plan	Info exists and more will be	Optimization of tools to employ	Optimization of tools to employ		Optimization of identified tools on a temporary basis to respond

	gathered on tools that can be employed in drought years	drought management	drought management		to dry years.
Habitat					More discussion needed. Describe ecological benefit of companion habitat work? Assess habitat as a water supply tool (i.e. floodplain storage)?
Aquifer Storage and Recovery					More discussion needed.
Conservation					Break into three categories: -Canal piping -On-farm efficiency -Municipal conservation